Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Implementation of Section 6002(b) of the Omnibus Reconciliation Act of 1993	)	WT Docket No. 17-69
	)	
	)	
Annual Report and Analysis of Competition Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services	)	

COMMENTS OF MOBILE FUTURE

Mobile Future submits these comments in response to the Federal Communications Commission's ("FCC" or "Commission") Public Notice seeking input on competition in the mobile wireless industry.[1] Now is the time for the Commission to recognize what more than 300 million American mobile consumers enjoy every day: a highly competitive U.S. wireless market. Accordingly, Mobile Future strongly urges the FCC to adopt an official declaration of a competitive mobile wireless market and reverse its position of the last eight years. The facts are compelling. Mobile consumers have the freedom to switch providers at any time, pick from an array of devices, choose among a range of new competitive plans, and tap into millions of apps and services. Mobile providers are working tirelessly to invest, innovate as well as differentiate their services and compete for customers. As an example of this surge in competitive energy, wireless carriers have recently introduced numerous unlimited and free data offerings. This competition will only intensify with the presence of new entrants, including the nation's largest cable companies, who are on the verge of entering the national wireless marketplace with new

[1] *Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, Public Notice, WT Docket No. 17-69, 32 FCC Rcd 1950 (WTB Mar. 23, 2017) ("*Public Notice*").

competitive offerings. Moreover, the rollout of next generation 5G services and the continued advancement of the Internet of Things ("IoT") will soon connect even more of our devices and will offer connectivity in new ways at home, in schools and hospitals, at work, in our vehicles, and across every aspect of life.

I. COMPETITION IS INTENSE, LEADING TO INCREASED CONSUMER CHOICE, FASTER SPEEDS, AND LOWER PRICES.

A. Demand for wireless services and consumer choice continues to increase.

Demand for wireless services continues to surge. Today, the average U.S. household owns 2.4 smartphones,[2] and by 2022, the average home could have as many as 500 connected devices.[3] The vast majority of Americans – 95 percent – now own a cellphone.[4] Seventy-seven percent of Americans now own a smartphone, up from 35 percent in 2011.[5] During the second half of 2016, the number of wireless-only households increased to 50.8 percent, up from only 13.6 percent in 2007.[6] And minority households are leading the wireless revolution. Hispanic adults, at 64.8 percent, non-Hispanic black adults (52.1 percent), and non-Hispanic Asian adults

[2] Ina Fried, *Americans Now Have Nearly as Many Smartphones as TVs*, recode (May 9, 2016), https://www.recode.net/2016/5/9/11640176/american-households-smartphones-tvs.

[3] Press Release, *Gartner Says a Typical Family Home Could Contain More than 500 Smart Devices by 2022*, Gartner (Sept. 8, 2014), http://www.gartner.com/newsroom/id/2839717.

[4] Mobile Fact Sheet, Pew Research Center (Jan. 12, 2017), http://www.pewinternet.org/fact-sheet/mobile/.

[5] *Id.*

[6] Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2016, CDC (May 2017), available at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf; *see also* Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January – June 2007, CDC (Dec. 2007), available at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200712.pdf.

(47.4 percent) all are more likely than non-Hispanic white adults (46.6 percent) to live in wireless-only households.[7]

Likewise, demand for data consumed over wireless devices continues to skyrocket. Mobile data usage in the United States more than doubled in just one year, from 4.06 trillion to 9.65 trillion megabytes between 2014 and 2015.[8] By 2021, United States mobile data traffic will reach 6.1 Exabytes per month, up from 1.3 Exabytes per month in 2016.[9] The demand for mobile video is one of the most significant drivers for wireless broadband growth, with 74 percent of U.S. consumers reporting that they watch live video on their smartphones, and 67 percent doing so every day.[10] Mobile video traffic accounted for 64 percent of total U.S. mobile data traffic in 2016, and is expected to account for 76 percent of mobile data traffic by 2021.[11]

Today, 99.7 percent of Americans have access to 4G LTE,[12] and 4G accounted for 93 percent of all mobile traffic in the U.S. at the end of 2016.[13] America's wireless companies built

---

[7] Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2016, CDC (May 2017), available at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf.

[8] *Annual Wireless Industry Survey*, CTIA, http://www.ctia.org/industry-data/ctia-annual-wireless-industry-survey (last visited May 2, 2017).

[9] *VNI Mobile Forecast Highlights, 2016-2021*, Cisco, http://www.cisco.com/assets/sol/sp/vni/forecast_highlights_mobile/ (last visited May 2, 2017).

[10] *How Consumers are Engaging with Mobile Video Around the World*, AOL (Feb. 17, 2017), http://advertising.aol.com/mobile-video-global.

[11] *VNI Mobile Forecast Highlights, 2016-2021*, Cisco, http://www.cisco.com/assets/sol/sp/vni/forecast_highlights_mobile/ (last visited May 2, 2017).

[12] *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Nineteenth Report, 31 FCC Rcd 10534, 10564 ¶ 39 Chart III.A.2 (2016).

[13] *VNI Mobile Forecast Highlights, 2016-2021*, Cisco, http://www.cisco.com/assets/sol/sp/vni/forecast_highlights_mobile/ (last visited May 2, 2017).

out 4G LTE services covering 98.5 percent of the population between 2010 and 2014.[14] From zero to 98.5 percent of America covered in just three and a half years – that's lighting fast by any measure. Most Americans can choose from multiple providers, with 95.9 percent of the U.S. population living in areas with three or more mobile broadband providers offering LTE and 89.1 percent of the population living in areas covered by four or more providers offering LTE.[15] That's a competitive market by any standard and the Commission should declare it so.

B. Fierce competition is causing more innovation and network investment while lowering prices.

Since 2007, more than $240 billion of private risk capital has been invested in American wireless broadband facilities,[16] with $32 billion invested in 2015 alone.[17] In fact, AT&T and Verizon invested more money in the United States than *any* other company in any industry in 2015.[18] And to meet 5G demand, U.S. telecom operators will invest approximately $275 billion

---

[14] Press Release, *Blazingly Fast: Verizon Wireless Launches the World's Largest 4G LTE Network on Sunday, Dec. 5*, Verizon (Dec. 3, 2010), https://www.verizonwireless.com/news/2010/12/pr2010-12-03.html; *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Seventeenth Report, 29 FCC Rcd 15311, 15336, 15340 ¶¶ 51, 59 (2014); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Fifteenth Report, 26 FCC Rcd 9664, 9720 ¶ 70 (2011).

[15] *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Nineteenth Report, 31 FCC Rcd 10534, 10564 ¶ 39 Chart III.A.2 (2016).

[16] *Annual Year-End 2015 Top-Line Survey Results*, CTIA, http://ctia.org/docs/default-source/default-document-library/ctia_survey_ye_2015_graphics.pdf?sfvrsn=0 (last visited Apr. 30, 2017).

[17] *Annual Wireless Industry Survey*, CTIA, http://www.ctia.org/industry-data/ctia-annual-wireless-industry-survey (last visited Apr. 27, 2017).

[18] Progressive Policy Institute, Investment Heroes 2016: Fighting Short-termism, at 5 (2016), available at http://www.progressivepolicy.org/wp-content/uploads/2016/10/InvestHeroes_2016.pdf.

in next generation networks over the next seven years, which is expected to create up to three million jobs and boost annual GDP by $500 billion.[19] In light of the need for America's wireless infrastructure builders to raise such massive amounts of capital to fund the build out of 5G networks, it is critical that the Commission pursue deregulatory, pro-investment policies and reverse its recent trajectory toward unnecessary and counterproductive regulation.

While investment increases, prices for wireless service fall. Competition is intensifying within a saturated market forcing wireless companies to constantly search for ways to respond to consumer needs and differentiate their services to attract new consumers. Intense competition for customers will continue as new entrants join the wireless marketplace, including Charter and Comcast, who recently announced a wireless operational partnership.[20] All four nationwide carriers have recently introduced affordable unlimited data offerings.[21] AT&T first opened its unlimited plans to all customers a few days after Verizon began offering unlimited data plans,[22] and then lowered the price of its unlimited-data plans less than two weeks later. [23] T-Mobile and Sprint also revised their unlimited plans in response to the new offerings by Verizon and

---

[19] *See How 5G Can Help Municipalities Become Vibrant Smart Cities*, Accenture Strategy (Jan. 12, 2017), http://www.ctia.org/docs/default-source/default-document-library/how-5g-can-help-municipalities-become-vibrant-smart-cities-accenture.pdf.

[20] Press Release, *Comcast, Charter to Explore Operational Efficiencies to Speed Entry into Wireless Market* (May 8, 2017), http://corporate.comcast.com/news-information/news-feed/comcast-charter-wireless-efficiencies; Dana Mattioli and Shalini Ramachandran, *Comcast, Charter Strike Wireless Partnership*, Wall St. J. (May 8, 2017), https://www.wsj.com/articles/comcast-charter-to-strike-wireless-partnership-1494200087.

[21] Patrick Holland, *Unlimited Data Plans: Verizon, T-Mobile, AT&T and Sprint, Compared*, CNET (April 27, 2017), https://www.cnet.com/news/how-does-verizon-unlimited-plan-stack-up-against-the-others/.

[22] *AT&T Lowers Price of Unlimited Data Plans*, Wall St. J. (Feb. 27, 2017), https://www.wsj.com/articles/at-t-lowers-price-of-unlimited-data-plans-1488199594/?mod=mktw.

[23] *Id*.

AT&T.[24] Providers are also offering incentives for subscribers to switch carriers, making it easier than ever to take advantage of the new unlimited plans. For example, all four nationwide carriers are offering up to $650 to compensate consumers for any early termination fees and device payments they may face when switching their service from another provider.[25]

Furthermore, wireless prices have fallen – all to the benefit of America's consumers. Since 2007, the wireless Consumer Price Index ("CPI") has fallen more than 25 percent.[26] In the last year alone, wireless CPI fell more than 11 percent, even as the general CPI increased 2.4 percent.[27] And from February to March, the month in which the nationwide carriers introduced new unlimited data plans, wireless prices dropped seven percent.[28]

II. THE INTRODUCTION OF 5G SERVICES WILL CONTINUE TO DRIVE COMPETITION, INNOVATION, INVESTMENT, AND LOWER PRICES.

Wireless providers are moving quickly to deploy 5G services to consumers. In February of this year, Verizon announced that it will deliver 5G pre-commercial services to customers in

---

[24] Patrick Holland, *Unlimited Data Plans: Verizon, T-Mobile, AT&T and Sprint, Compared*, CNET (April 27, 2017), https://www.cnet.com/news/how-does-verizon-unlimited-plan-stack-up-against-the-others/.

[25] T-Mobile, *There's Never Been a Better Time to Switch to T-Mobile*, https://www.t-mobile.com/offer/switch-carriers-no-early-termination-fee.html (last visited May 4, 2017); AT&T, *Get up to $650 in credits per line to help you switch to AT&T*, https://www.att.com/shop/wireless/switch-and-save-etf.html (last visited May 4, 2017); Verizon, *Switch to Verizon and Get up to $650*, https://www.verizonwireless.com/promos/switch-and-save/ (last visited May 4, 2017); Sprint, *Switch to Sprint*, https://sprint.com/lovetosave (last visited May 4, 2017).

[26] Press Release, Consumer Price Index – March 2017, Table 1 Consumer Price Index for All Urban Consumers (Apr. 14, 2017), https://www.bls.gov/news.release/pdf/cpi.pdf; *see also* Annual Average Indexes 2007, Table 3A. Consumer Price Index for all Urban Consumers (2007), https://www.bls.gov/cpi/cpid07av.pdf.

[27] Press Release, Consumer Price Index – March 2017, Table 1 Consumer Price Index for All Urban Consumers (Apr. 14, 2017), https://www.bls.gov/news.release/pdf/cpi.pdf.

[28] *Id*.

11 markets across the country on its newly built 5G network,[29] and the company has already begun densifying its network using advanced small cell deployments.[30] AT&T has also moved into a new round of 5G testing in Austin, Texas and Indianapolis, Indiana, and expects to achieve data rates of 1 Gbps by the end of 2017.[31] Similarly, T-Mobile recently announced plans to launch a national 5G network by 2020, with rollout beginning in 2019.[32] Equipment manufacturers Ericsson and Nokia have been involved in multiple 5G trials with a variety of partners.[33] By 2025, technologists predict that 25 percent of North American mobile subscriptions will be 5G, compared to only 10 percent in the Asia Pacific region and 5 percent in Western Europe.[34]

Additionally, the widespread availability of 5G services will fuel the growth of the Internet of Things ("IoT"). By 2021, machine-to-machine mobile connections are predicted to increase by at least 5.4-fold in the U.S., with analysts predicting connections to reach 587 million

---

[29] Press Release, *Verizon to deliver 5G service to pilot customers in 11 markets across U.S. by Mid 2017* (Feb. 22, 2017), http://www.verizon.com/about/news/verizon-deliver-5g-service-pilot-customers-11-markets-across-us-mid-2017.

[30] *New Network Technologies Coming for Our Customers in 2017*, Verizon Blog (Jan. 23, 2017), http://www.verizon.com/about/news/new-network-technologies-coming-our-customers-2017-building-2016-accomplishments.

[31] *AT&T Network 3.0 Indigo Redefining Connectivity through Software Control, Big Data, and Blazing Speed*, AT&T Newsroom (Feb. 1, 2017), http://about.att.com/story/indigo_redefining_connectivity.html; *see also* Chris Donkin, AT&T Prepares Next Round of 5G Testing (Feb. 3, 2017), https://www.mobileworldlive.com/featured-content/top-three/att-prepares-next-round-of-5g-testing/.

[32] Jon Fingas, *T-Mobile Plans to Launch a National 5G Network by 2020*, Engadget (May 2, 2017), https://www.engadget.com/2017/05/02/t-mobile-plans-national-5g-network-by-2020/.

[33] Jon Gold, *2016 – The Year 5G Wireless Testing Took Off* (Nov. 21, 2016), http://www.networkworld.com/article/3143106/mobile-wireless/2016-the-year-5g-wireless-testing-really-took-off.html.

[34] Ericsson, *Ericsson Mobility Report: On the Pulse of the Networked Society* (Nov. 2016), https://www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016.pdf.

total in the U.S. alone[35] and anywhere between 733 million[36] and 1.27 billion[37] total connections globally. In that same period, the number of wearable devices will grow from 325 million to 929 million globally.[38] By 2022, 1.5 billion IoT devices will be connected worldwide,[39] and a typical home could contain more than 500 smart devices keeping our homes more secure, our kids safer, conserving resources, and making daily tasks more convenient.[40] Smart city initiatives are quickly gaining momentum and will have long-term, transformational effects. For example, smart city traffic management and parking projects are expected to reduce global CO_2 emissions by 164 million metric tons by 2019, and gunfire sensors reduce shooting incidents in high-crime areas by almost half.[41]

[35] *VNI Mobile Forecast Highlights, 2016-2021*, Cisco, http://www.cisco.com/assets/sol/sp/vni/forecast_highlights_mobile/ (last visited May 2, 2017).

[36] *See, e.g.*, Jamie Moss, *LTE to Dominate M2M Market After 2021*, Ovum (Sept. 5, 2016), https://www.ovum.com/press_releases/lte-dominate-m2m-market-2021/ (noting "Global cellular M2M connections will reach 733 million in 2021").

[37] *See, e.g.*, T*he Global M2M/IoT Communications Market – 2nd Edition*, Research and Markets (Dec. 2016), http://www.researchandmarkets.com/research/q5gt49/the_global.

[38] *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016-2021 White Paper*, Cisco (Feb. 7, 2017), http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html.

[39] Ericsson, *Ericsson Mobility Report: On the Pulse of the Networked Society* (Nov. 2016), https://www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016.pdf.

[40] Get Smart: The Ground-Up Revolution to Connect and Transform American Communities, Mobile Future at 2 (Nov. 2016), available at http://mobilefuture.org/wp-content/uploads/2016/11/get-smart-report-.pdf.

[41] *Id*. at 5.

III. CONCLUSION

Overwhelming evidence reveals a vibrant and competitive wireless marketplace. The FCC should once again clearly and unequivocally declare the American mobile wireless marketplace to be competitive. Recognizing this market reality, the Commission should focus on adopting policies that promote investment in next generation networks and that encourage entrepreneurs to take positive and constructive risks to bring new products and services to market. By officially recognizing that the U.S. wireless market is highly competitive and dynamic, and creating a pro-investment and pro-innovation light-touch regulatory framework, America will strengthen its role as the world leader in wireless.

Respectfully submitted,

Robert M. McDowell
Chief Public Policy Advisor
Mobile Future
1325 Pennsylvania Avenue, NW, Suite 600
Washington, DC 20004
202.756.4154
www.mobilefuture.org

May 8, 2017